

THE GHOST ORCHID, POLYRRHIZA LINDENII,
AN ENDANGERED SPECIES IN FLORIDA

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The ghost orchid, Polyrrhiza lindenii (Lindley) Cogniaux, (also known as palm-poly, white butterfly orchid, or frog orchid) is the only representative of the genus found in Florida. There are about 5 species in this genus, all limited to the West Indies except P. lindenii which occurs in both the West Indies and southwestern-most Florida, mainly Collier County. Polyrrhiza lindenii grows on tree trunks and branches in wet hammocks and swamps. It is widely scattered over the area but generally not abundant anywhere. Although not particularly rare at this time, it is endangered because of habitat destruction and over-collecting.

The ghost orchid has no leaves and almost no stem. It consists almost entirely of thick, greenish roots which grow over the surface of the bark of trees and serve the function of both leaves and roots. In the center of the cluster of roots is the small bit of stem that is the body of the plant. From this bit of stem arises the flower stalk terminated by usually 1 or occasionally 2 or 3 flowers (fig. 1). Sometimes several flowers will develop in succession from the same stem.

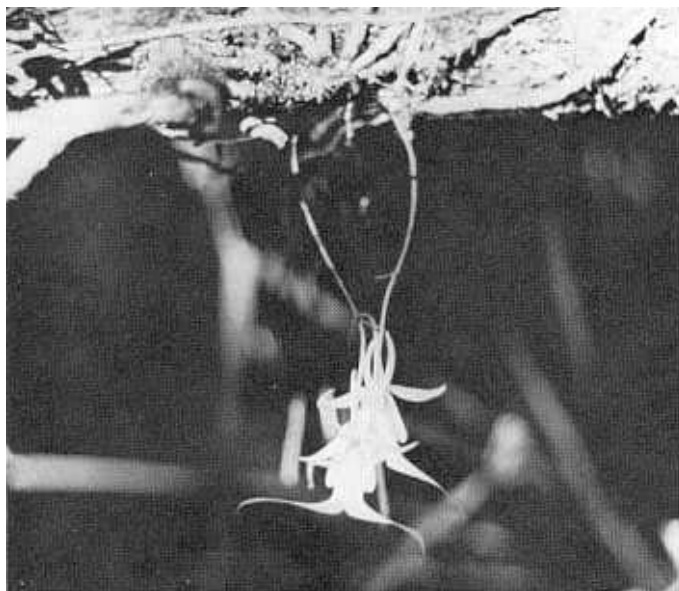


Fig. 1. Polyrrhiza lindenii flowering on tree branch in Fackahatchee Swamp.

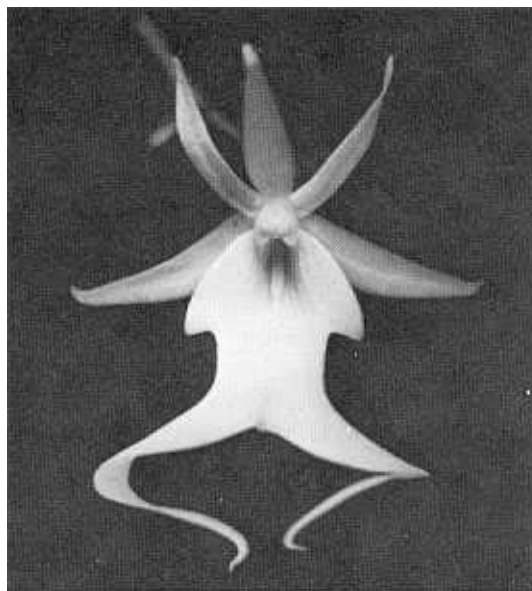


Fig. 2. Closeup of flower of P. lindenii.

The flower has an unusual appearance (fig. 2). The petals and sepals are narrow, greenish white, up to about 1 inch (25 mm) long. The lip has a broad blade with 2 lateral lobes and 2 long, narrow appendages at the end plus a long, slender, hollow spur at the base. The whole aspect suggests to some the fanciful resemblance to a frog suspended in mid-air or a fairy-like ghost frozen in flight. Luer (1972) makes the statement with which I heartily concur, "While wading knee deep in swamp water, the thrill of chancing upon a plant in flower will never be forgotten."

The spectacular flowers of this plant have made it a prize of collectors. Unfortunately it is difficult to grow in cultivation, resulting in death of a very high percentage of collected plants. This loss often results in the collector obtaining more plants from the woods to replace the dead ones. Such collecting, losses, and recollecting plus development and other land clearing operations resulting in habitat destruction are seriously depleting the numbers of this very attractive species.

Successful cultivation of *P. lindenii* is dependent on approximating in culture the natural growing conditions where the plant grows wild. A reasonable approximation can be obtained by mounting the plant on a cypress or tree-fern slab and maintaining it in a well lighted, evaporative cooled greenhouse. The evaporative cooling provides the necessary humidity, and the air movement from the fans eliminates stagnant air and prevents free water from remaining on the plants for prolonged periods. Under these conditions the success rate should be reasonably good, but under other cultural conditions may be very poor. In general the plants should be left to grow in the wild.

Survey and Detection:

Current Florida law (Section 581.185) requires a permit to collect or sell 3 or more plants of this or any other endangered species. Plant specialists should check nurseries, flea markets, etc. for the presence of leafless species of orchids growing on slabs, plaques, logs, branches, etc. If such plants are found, their identity should be determined and, if they are ghost orchids, determine if the person involved has a valid collecting permit.

Selected References:

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- Luer, C. A. 1972. The native orchids of Florida. New York Botanical Garden. 293p.
- Rickett, H. W. 1967. Wild flowers of the United States. Vol. 2. The southeastern states. Part 1. 322p.
- Small, J. K. 1933. Manual of the southeastern flora. University of North Carolina Press. Chapel Hill. 1554p.